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IMAGERY
ANALYSIS
DIVISION

PIR

PHOTOGRAPHIC INTELLIGENCE REPORT

[redacted]

CHINESE POWER PLANTS

YUNNAN PROVINCE

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Declass Review by NIMA / DOD

DATE JULY 1966
COPY 39
PAGES 30

GROUP 1
Excluded from automatic downgrading and declassification

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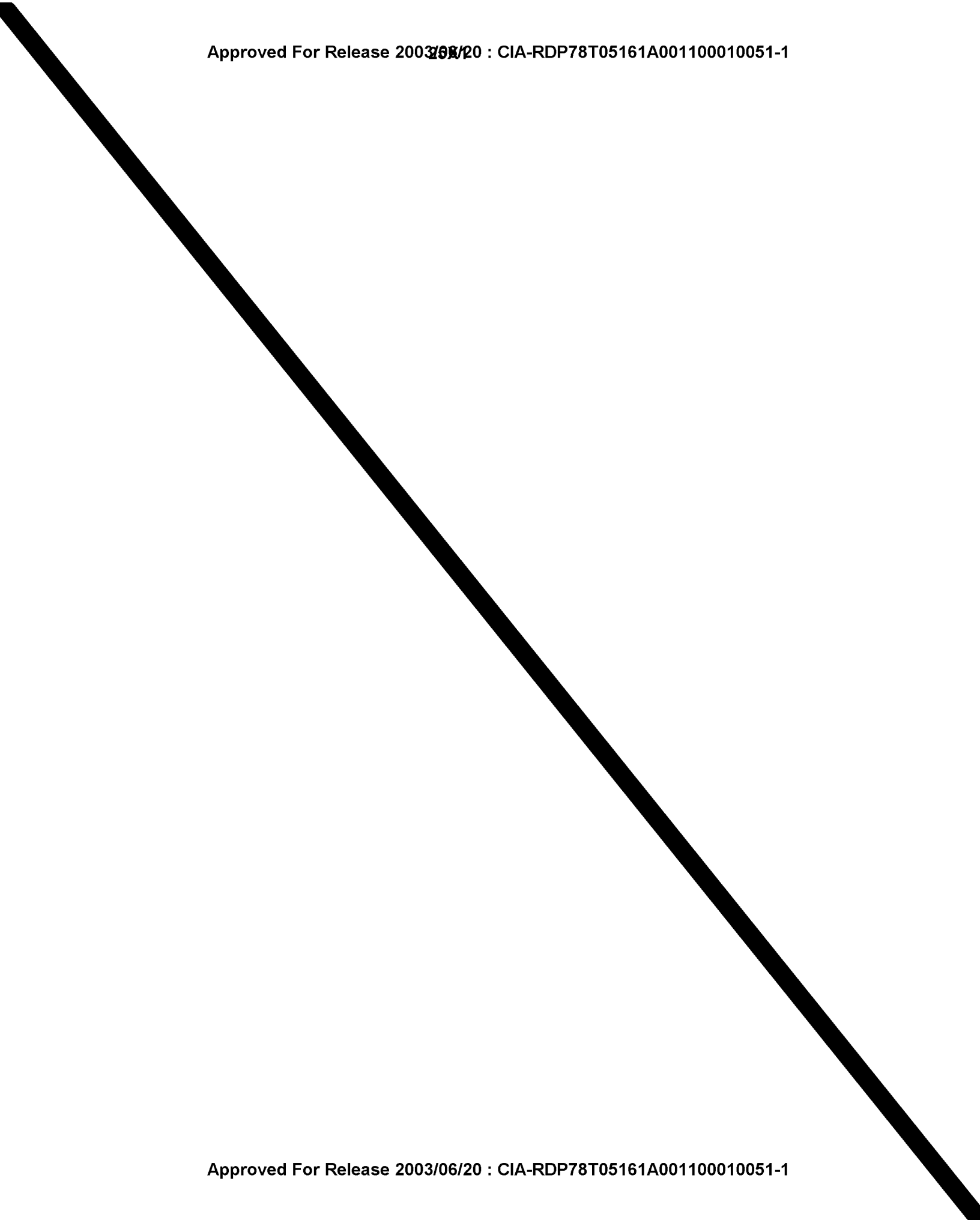

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CIA IMAGERY ANALYSIS DIVISION

CHINESE POWER PLANTS

YUNNAN PROVINCE

(A) Hsuan-wei Thermal Power Plant (Jung-feng)

(B) Probable Hui-tse Hydro Power Plant (I-li Ho No. 4)

(C) Kai-yuan Thermal Power Plant

(D) Kai-yuan Thermal Power Plant
(Kai-yuan Nitrogen Fertilizer Plant)

(E) Kun-ming Thermal Power Plant (Chi-chia-pi)

(F) Kun-ming Thermal Power Plant (Yang-tsung-hai)

(G) Ta-chiang-pien Hydro Power Plant

REQUIREMENT

C-RR5-83,218

CIA/IAD PROJECT

30647-6

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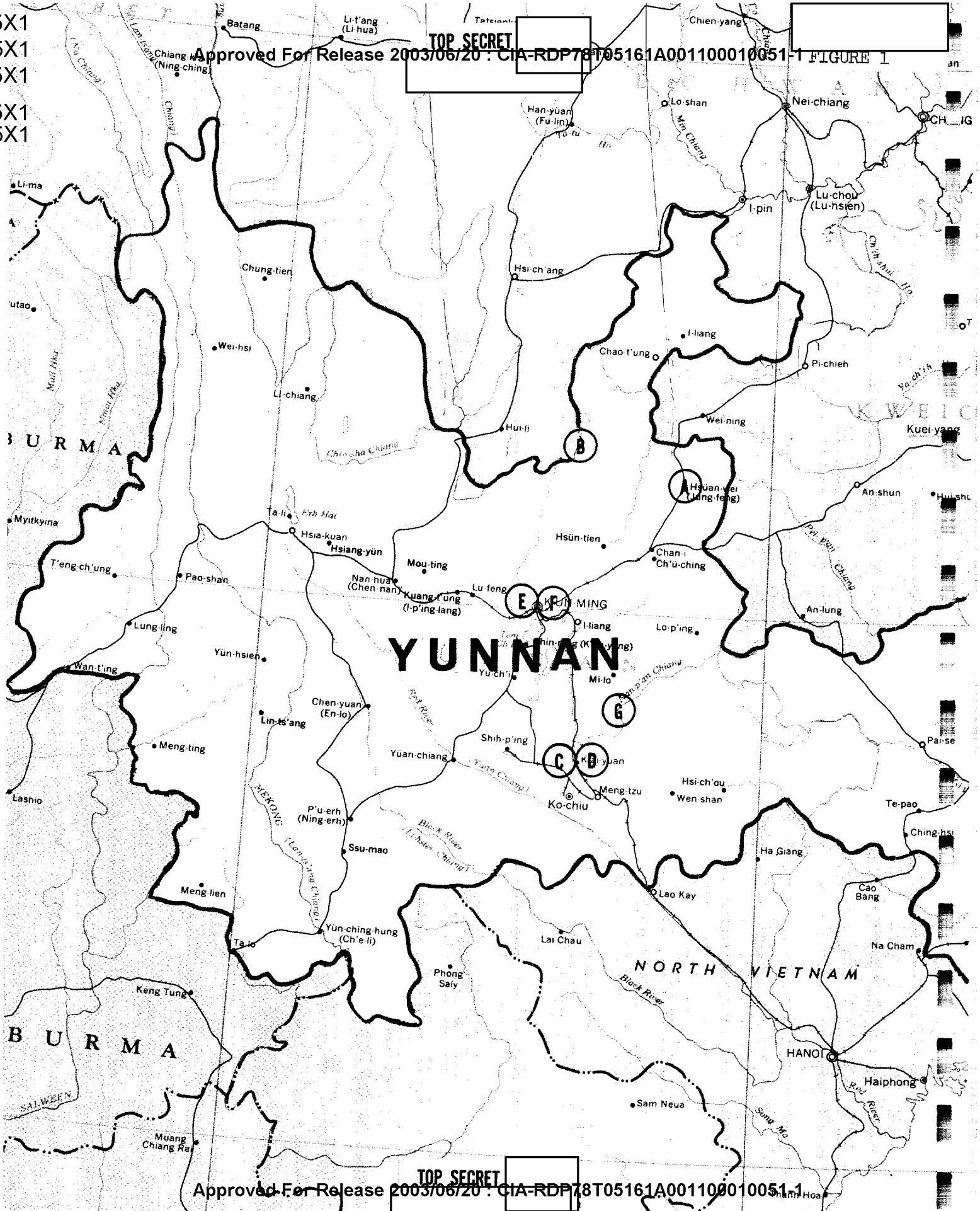
FIGURE 1



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CIA IMAGERY ANALYSIS DIVISION

HSUAN-WEI THERMAL POWER PLANT (JUNG-FENG)

NPIC NUMBER - 41

Hsuan-wei Thermal Power Plant (Jung-feng) is located 2.0 nm south of Hsuan-wei at coordinates 26 11 00N - 104 07 10E. The plant is coal-operated, rail-served and includes an open coal-storage yard, administrative building, probable control house, substation with two probable large transformers, coal conveyor and numerous miscellaneous support/storage buildings. Water is obtained via a canal connecting with a large reservoir south of the plant.

The boilerhouse is equipped with two large dust-catchers and probably has two boiler units. The generator hall has no power cables visible; however, the absence of good large scale photography of this plant makes such an analysis impossible. The presence of two probable transformers west of the plant suggests that two generator units may be operable.

Photography revealed uprights and building materials for expansion of the powerhouse. This new construction activity appears to but could only be definitely established on coverage. If completed, the expansion could accommodate two additional boiler-generator units.

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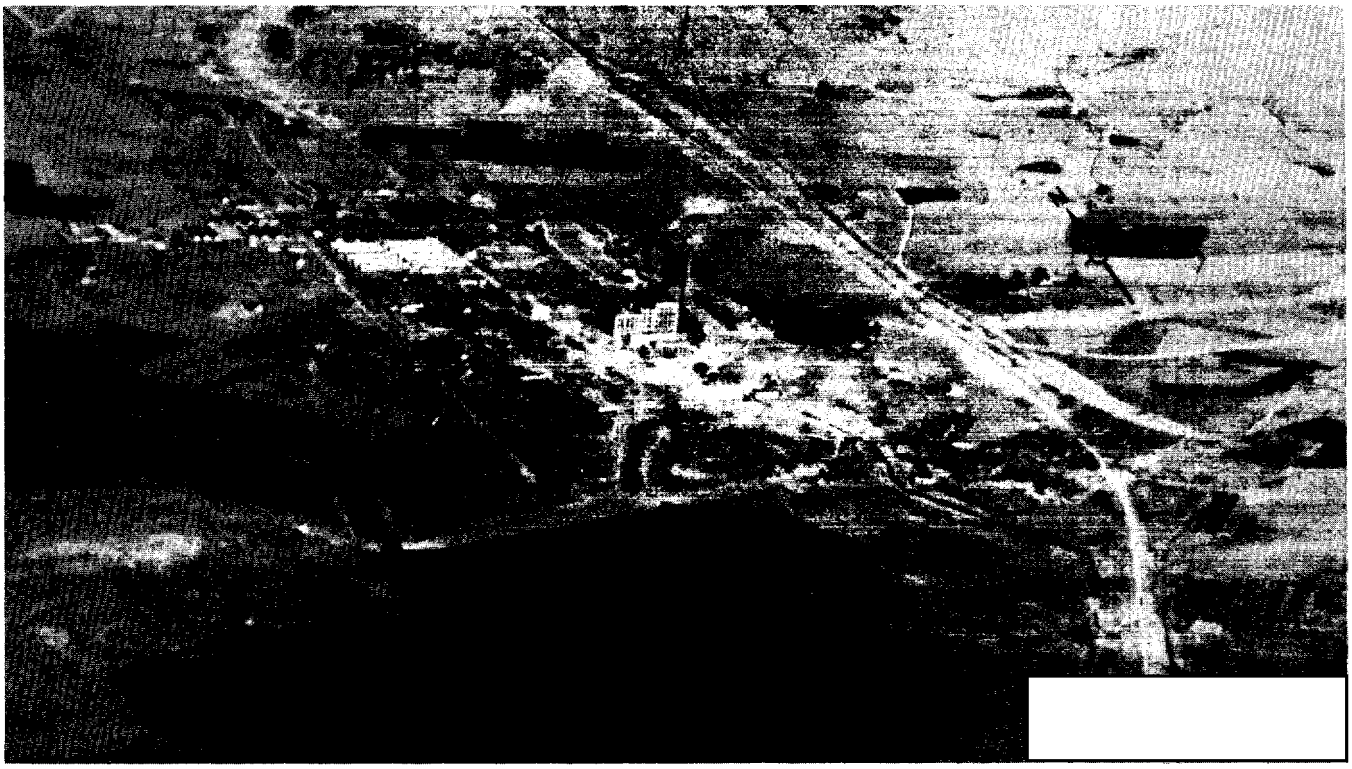
FIGURE 2

HSUAN-WEI THERMAL POWER PLANT (JUNG-FENG)



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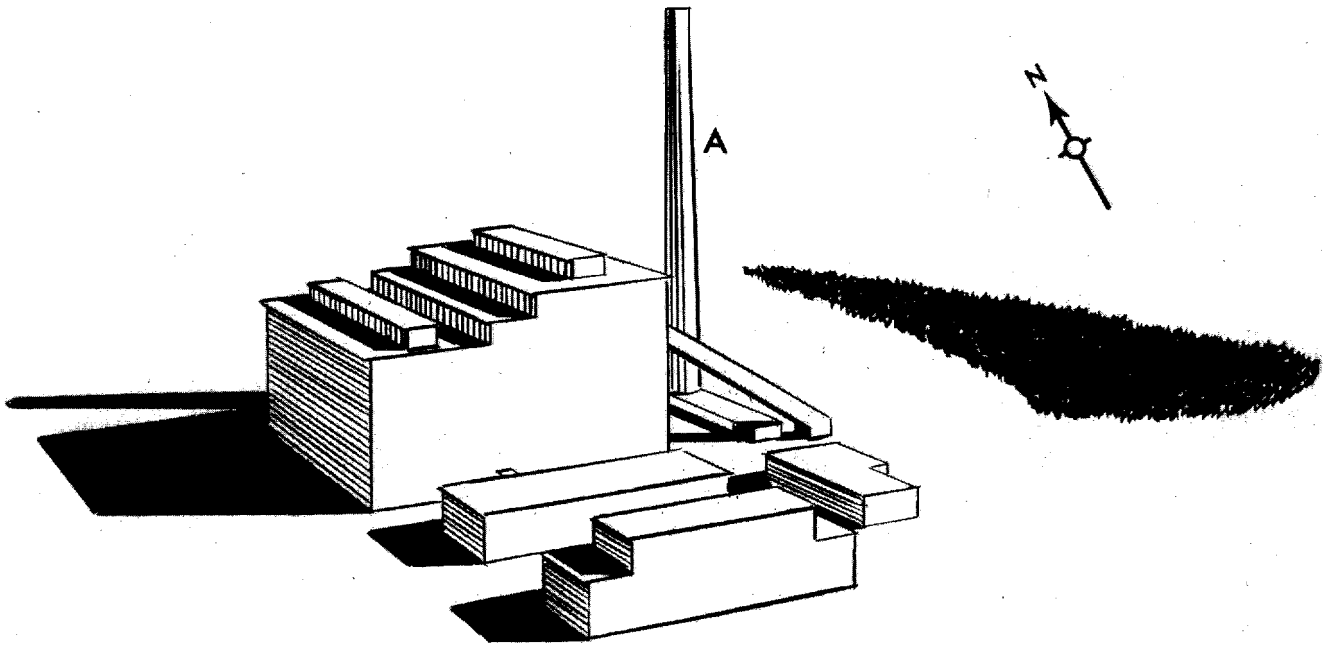

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FIGURE 3

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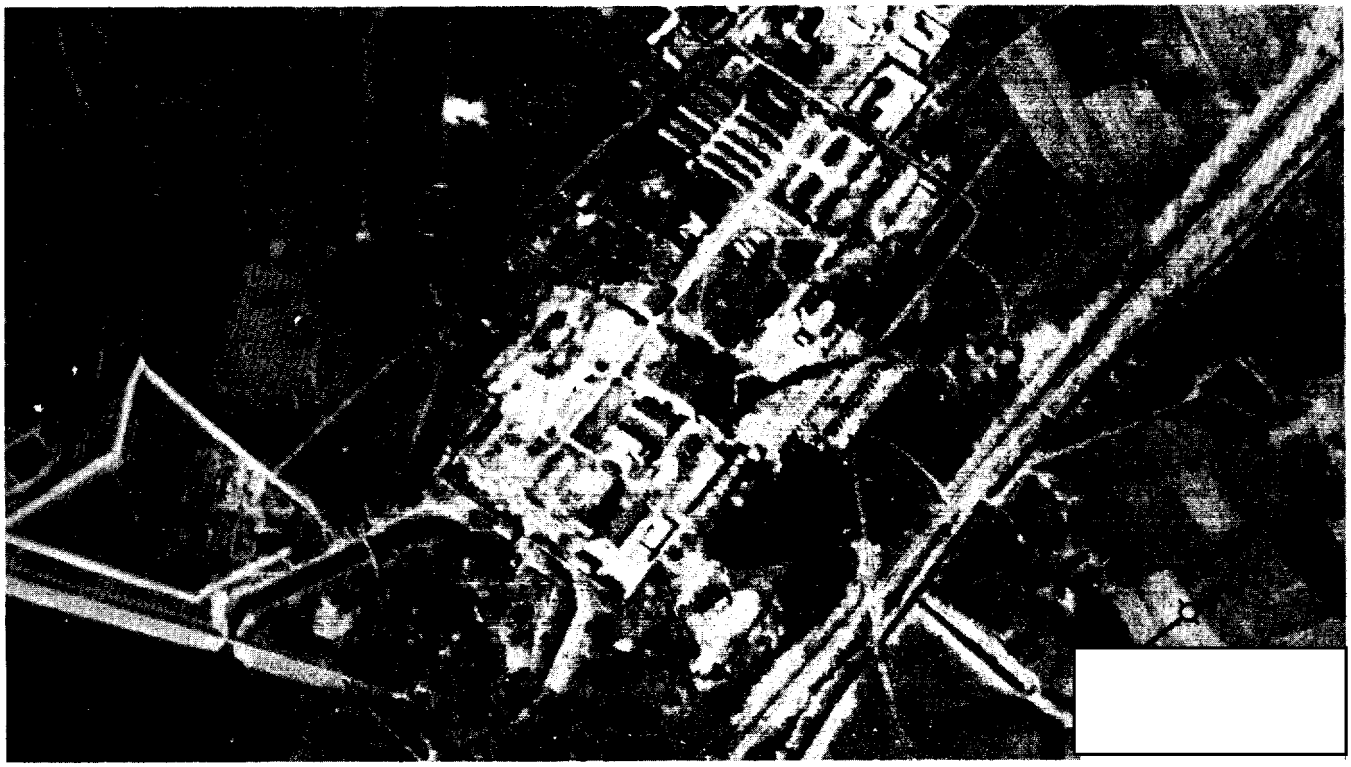
HSUAN-WEI THERMAL POWER PLANT (JUNG-FENG)



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HSUAN-WEI THERMAL POWER PLANT (JUNG-FENG)

[redacted]	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None apparent.	Light smoke from stack A.
	Possible preliminary excavation underway to expand boiler-generator hall.	Light smoke from stack A.
25X1	Expansion appears underway to extend the generator hall and boilerhouse. Uprights for the generator hall addition are in place and a partition between boilerhouse and generator hall is complete.	Moderate smoke from stack A.

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B

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25X1
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25X1

CIA IMAGERY ANALYSIS DIVISION

PROBABLE HUI-TSE HYDRO POWER PLANT (I-LI HO NO. 4)

25X1

NPIC NUMBER - 45-A

A search of available photography failed to confirm the existence of the two Hui-tse Hydro Power Plants (I-li Ho Nos. 3 and 4), reportedly located in the vicinity of coordinates 26 30N - 103 05E. No dams or powerhouses were observed in this area, although evidences of old earth scarring were noted in several locations. Considerable scarring was noted 7.0 nm northwest of Pai-wu-chieh at coordinates 26 32 20N - 103 04 00E (Figure 3) and is probably the site of Hui-tse Hydro Power Plant (I-li Ho No. 4). Construction is not sufficiently advanced to provide any indication of future plant facilities. There is no evidence that construction is presently underway.

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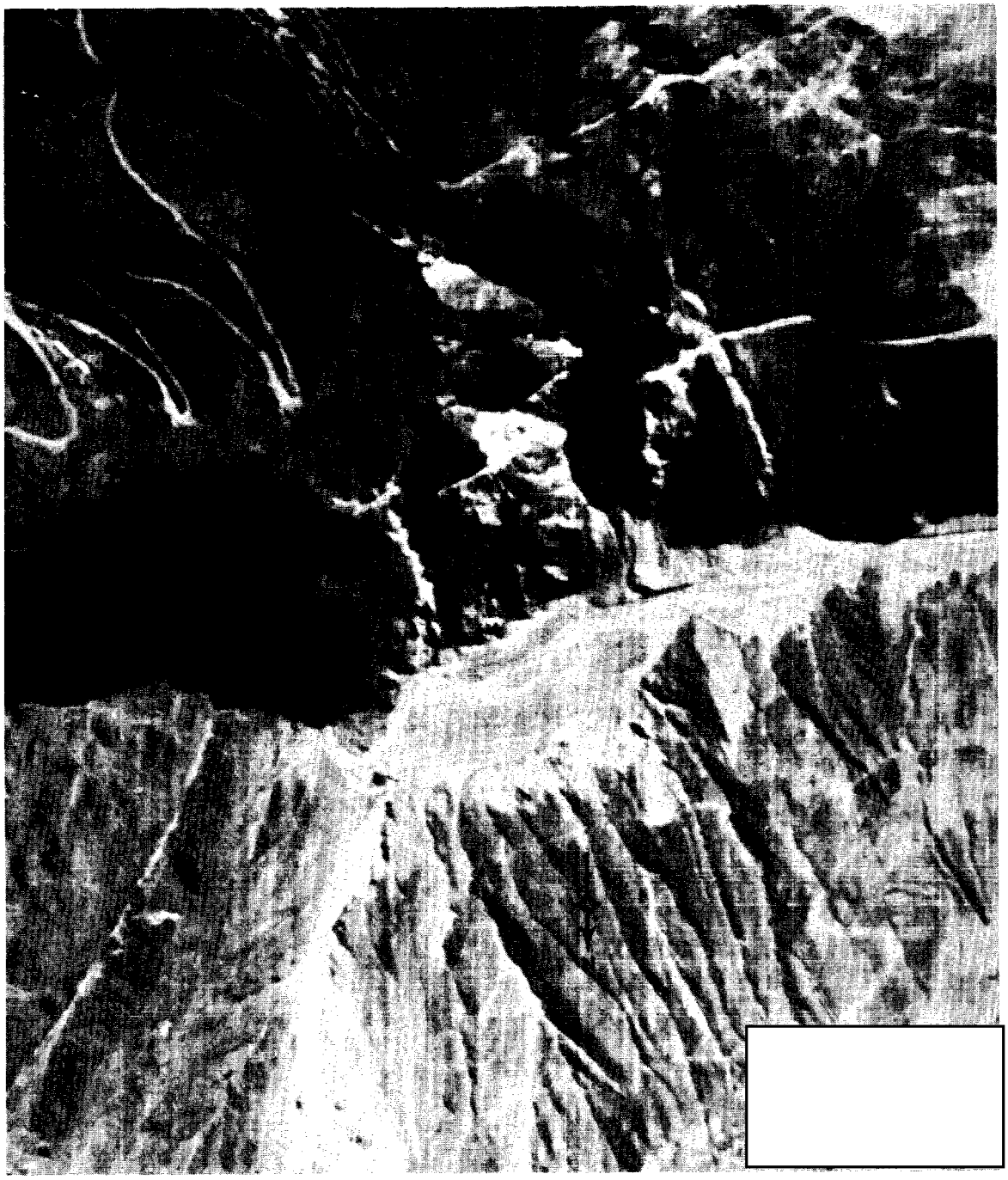
FIGURE 4

PROBALE HUI-TSE HYDRO POWER PLANT (I-LI HO NO. 4)



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C

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25X1

CIA IMAGERY ANALYSIS DIVISION

25X1

KAI-YUAN THERMAL POWER PLANT

25X1

NPIC NUMBER 12-B

The Kai-yuan Thermal Power Plant is located east of the Kai-yuan Army Barracks South on the west bank of the Nan-pan Chiang (River) at coordinates 23 41 31N - 103 14 53E. The facility is coal-operated, rail-served and consists of a pump intake station, substation, coal processing and conveying facilities, settling basins, six revetted oil-storage tanks, two small water reservoirs, three spray ponds, and numerous support/storage buildings.

25X1

The powerhouse is being expanded and appears to contain six operable boiler-generator units Construction is well underway on a powerhouse addition for at least two more boiler-generator units, for a projected total of eight. Masonry stack A services the four boilers in the southeast section of the plant; masonry stack B is connected to two larger units and will serve the two boiler sections presently under construction.

25X1

No power leads are visible leading from the generator hall to the sub-station; however, there are six transformers located adjacent to the generator hall. Four of the transformers were present the fifth was added and the sixth added

25X1

25X1

25X1

Considerable construction occurred a new system of spray ponds and expansion of the boilerhouse - generator were the major items.

25X1

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FIGURE 5

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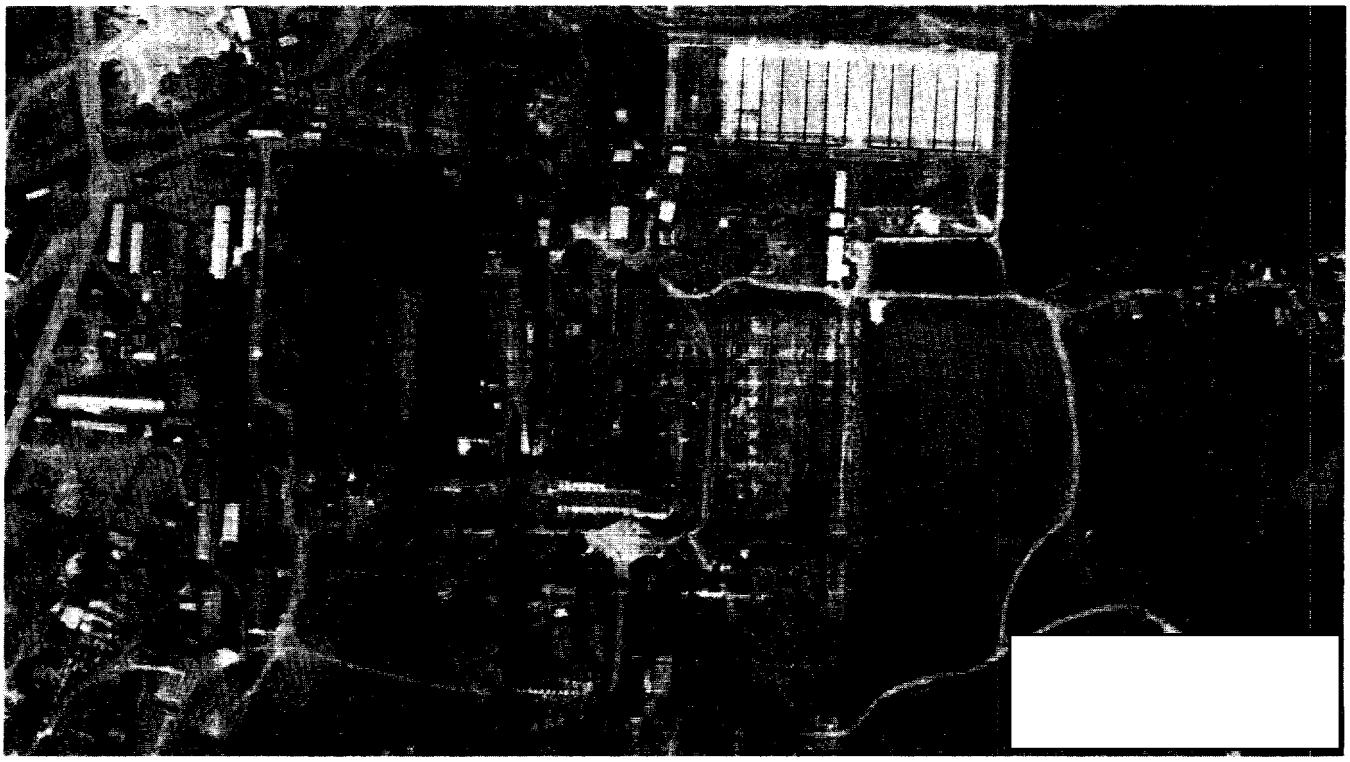
KAI-YUAN THERMAL POWER PLANT



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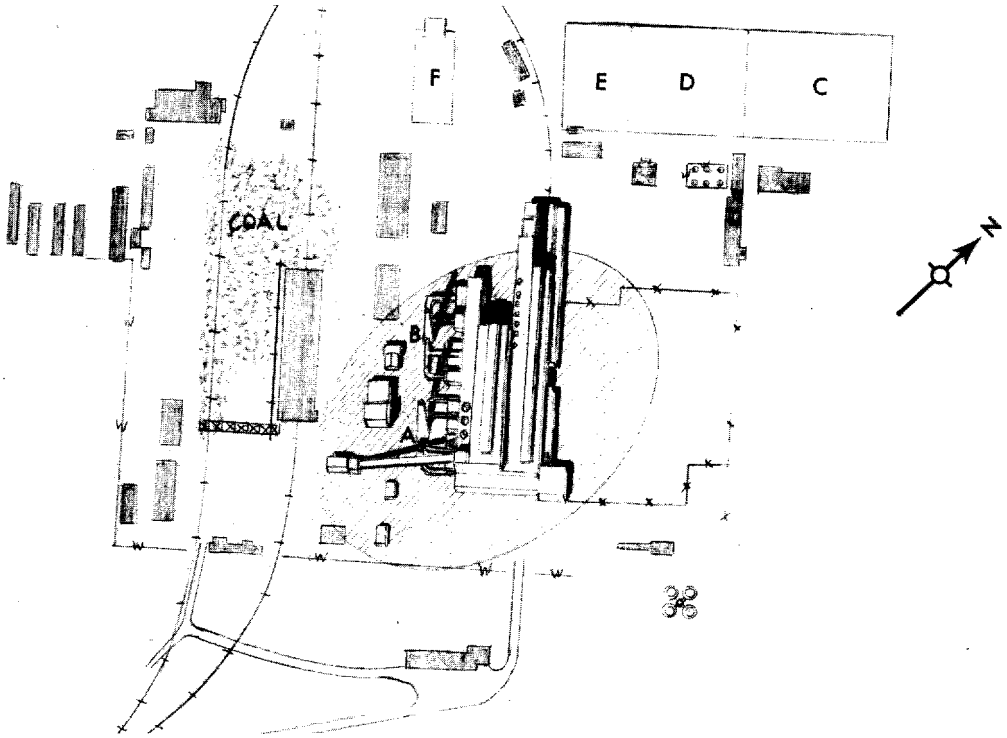

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FIGURE 6

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KAI-YUAN THERMAL POWER PLANT

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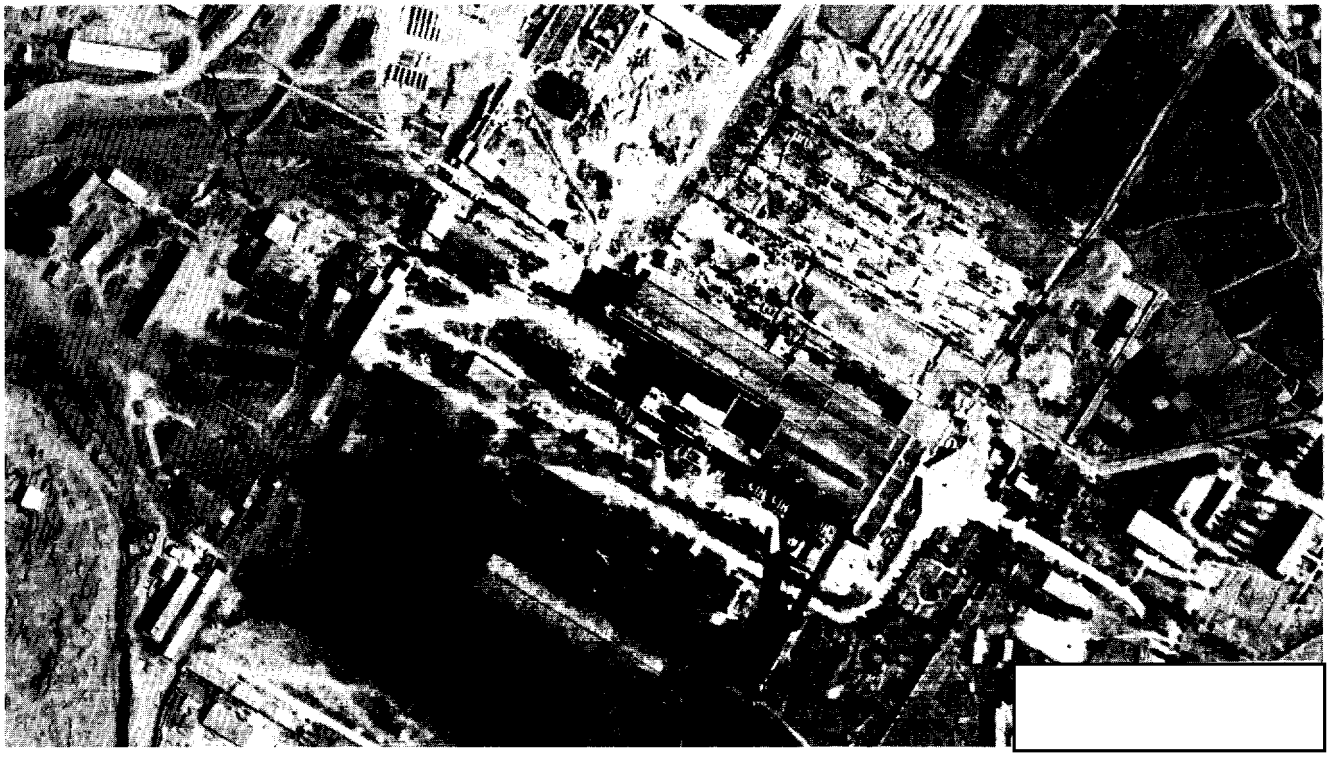

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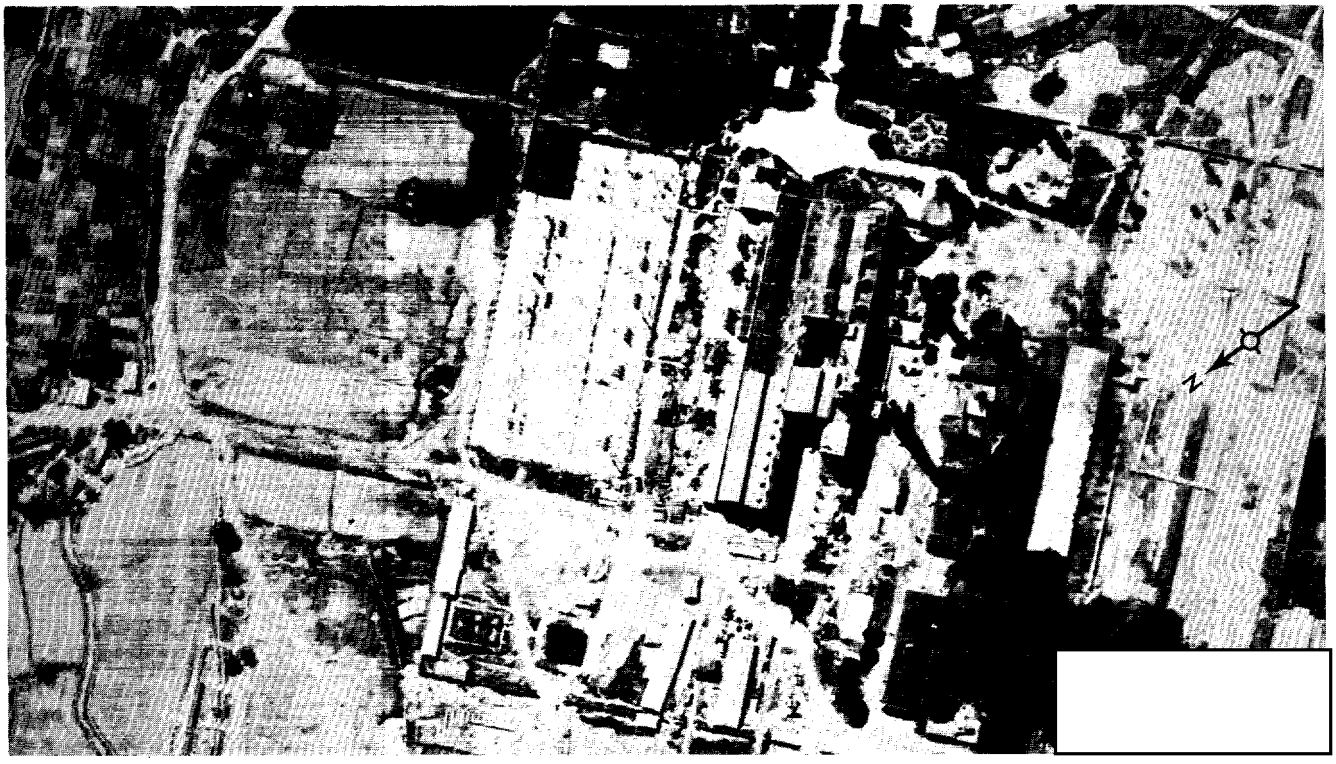

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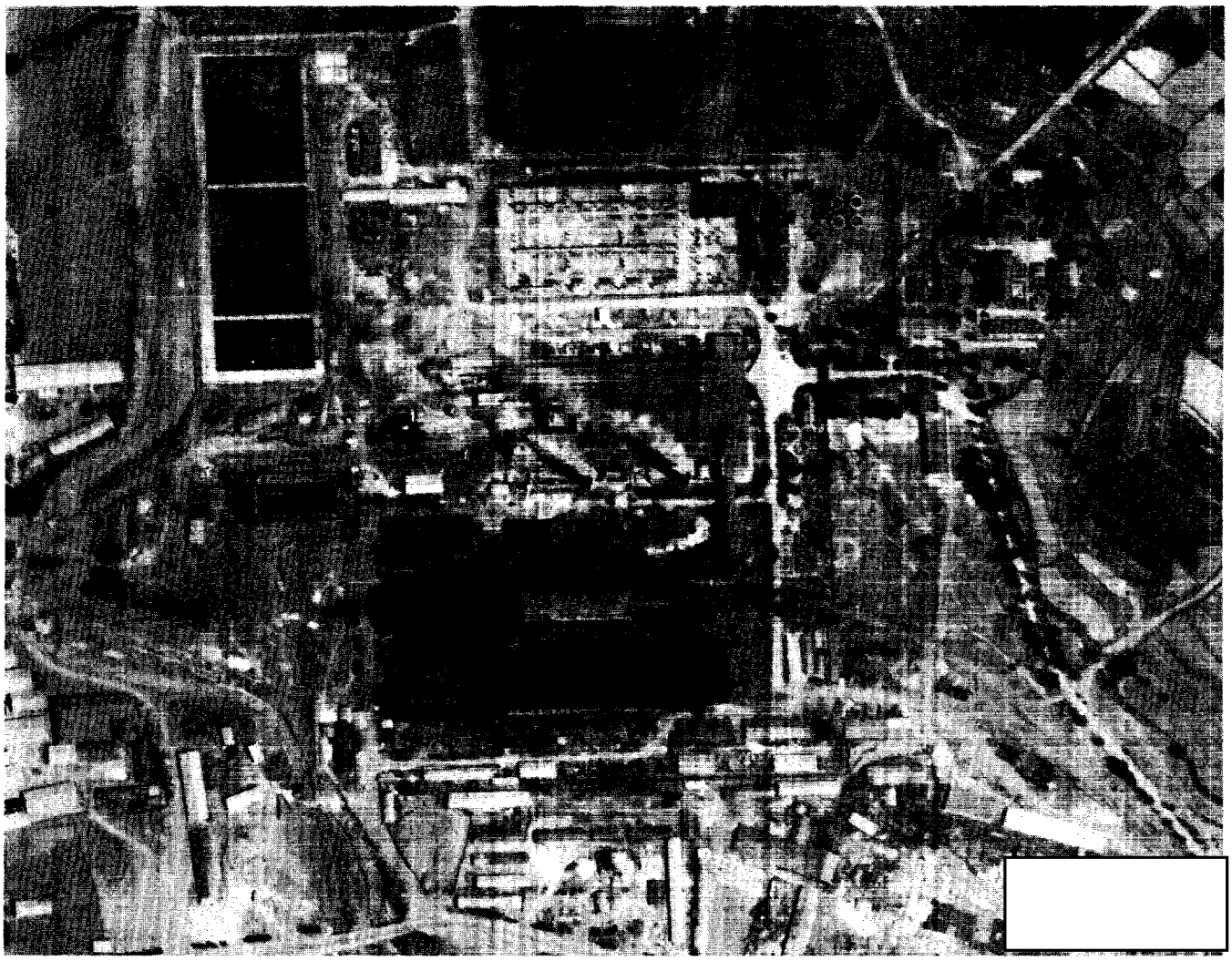
FIGURE 7

KAI-YUAN THERMAL POWER PLANT



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[redacted]

[redacted]

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

KAI-YUAN THERMAL POWER PLANT

25X1

[redacted]

CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
Expansion is occurring at the western end of the power-house. Latticework is evident at west end of the boilerhouse, indicating that two units are being added.	Light smoke from stack A.
Latticework is gone: a series of uprights are installed at the end of the generator hall. A fifth transformer has been installed alongside the west end of the generator hall.	Light smoke from stack A.
Three new spray ponds are complete, but empty (C, D, and E). Construction appears to be beginning on a new boiler section in the center of the boilerhouse between stacks A and B.	Light smoke from stacks A and B.
The boiler unit observed under construction [redacted] is complete and equipped with dust-catcher and flues. No other construction is apparent. Two old spray ponds, A and B, are dismantled.	Moderate smoke from stack A. Light smoke from stack B.
No significant change is evident. Two flues appear to be connected to stack B for future expansion of the boilerhouse.	Moderate smoke from stack A. Light smoke from stack B.

25X1

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[redacted]

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25X1

KAI-YUAN THERMAL POWER PLANT

	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	No apparent change.	Moderate smoke from stack A. Light smoke from stack B. Spray ponds C, D, and E are filled for first time, but inactive.
	No apparent change.	Moderate smoke from stack A. Light smoke from stack B. Spray ponds C, D, and E appear in operation.
25X1	The western end of the generator hall is being expanded as is the boilerhouse. A probable boiler unit is visible through the roof of the expanding section. Two boiler-generator units will probably be added in the new powerhouse section presently under construction. A probable settling pond (F) has been installed near the spray pond area. A sixth transformer has been added alongside the generator hall.	Moderate smoke from stack A. Light smoke from stack B. Spray ponds are inactive.

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D

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25X1

CIA IMAGERY ANALYSIS DIVISION

25X1

KAI-YUAN THERMAL POWER PLANT
(KAI-YUAN NITROGEN FERTILIZER PLANT)

A new thermal power plant has been constructed within the Kai-yuan Nitrogen Fertilizer Plant in the northwest sector of Kai-yuan at coordinates 23 44 00N - 103 14 30E. The facility is rail-served, coal-operated and includes a sub-station with one transformer, control house, coal handling and processing facilities, one cooling tower, foundations for a second cooling tower, bridge crane, and numerous support/storage buildings.

The boilerhouse is equipped with two dust-catcher units and two flues that lead to masonry stack A. Footings and uprights for a third boiler unit were in evidence The generator hall is also being expanded by one unit, and presently has one set of power cables leading to the control house.

25X1

Construction of the plant was first observed on photography Since that time the plant has been put into operation and currently construction is underway to add a third boiler-generator unit.

25X1

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FIGURE 8

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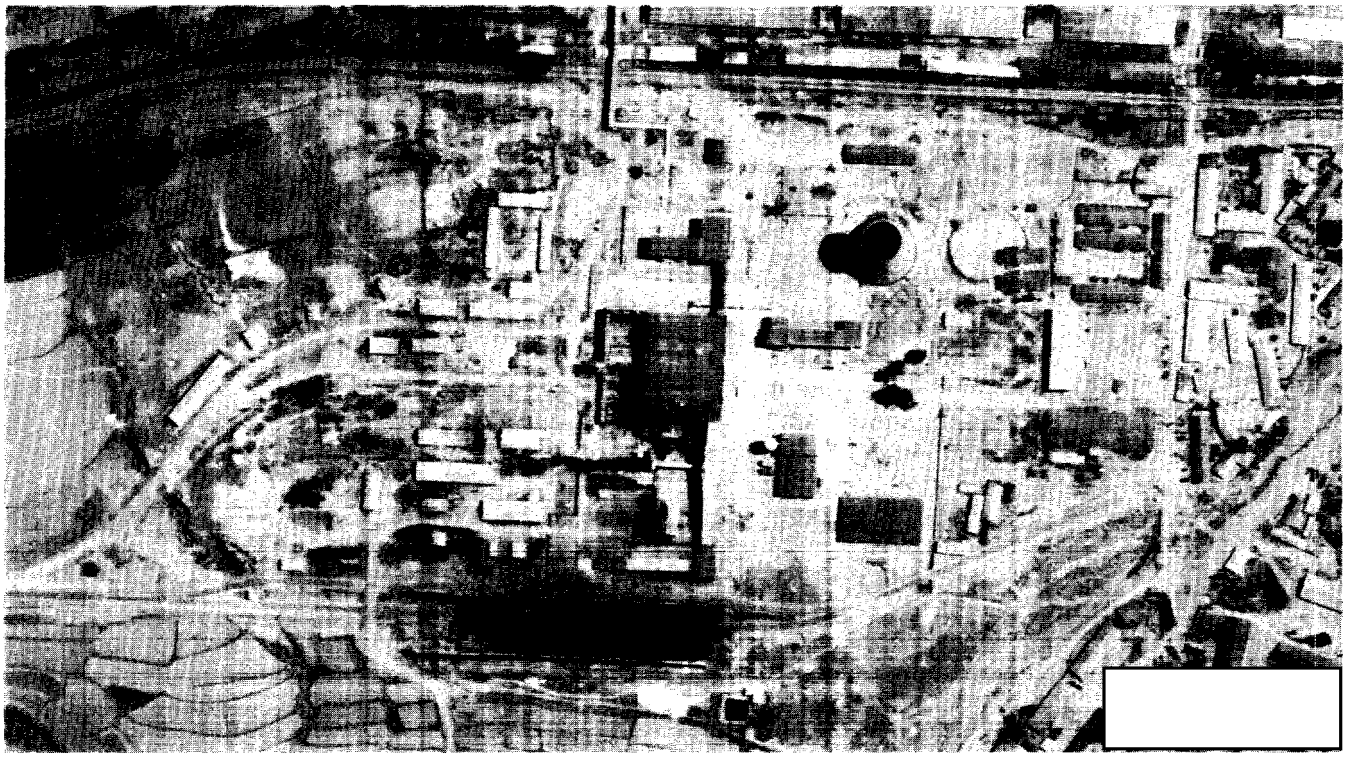
KAI-YUAN THERMAL POWER PLANT
(KAI-YUAN NITROGEN FERTILIZER PLANT)



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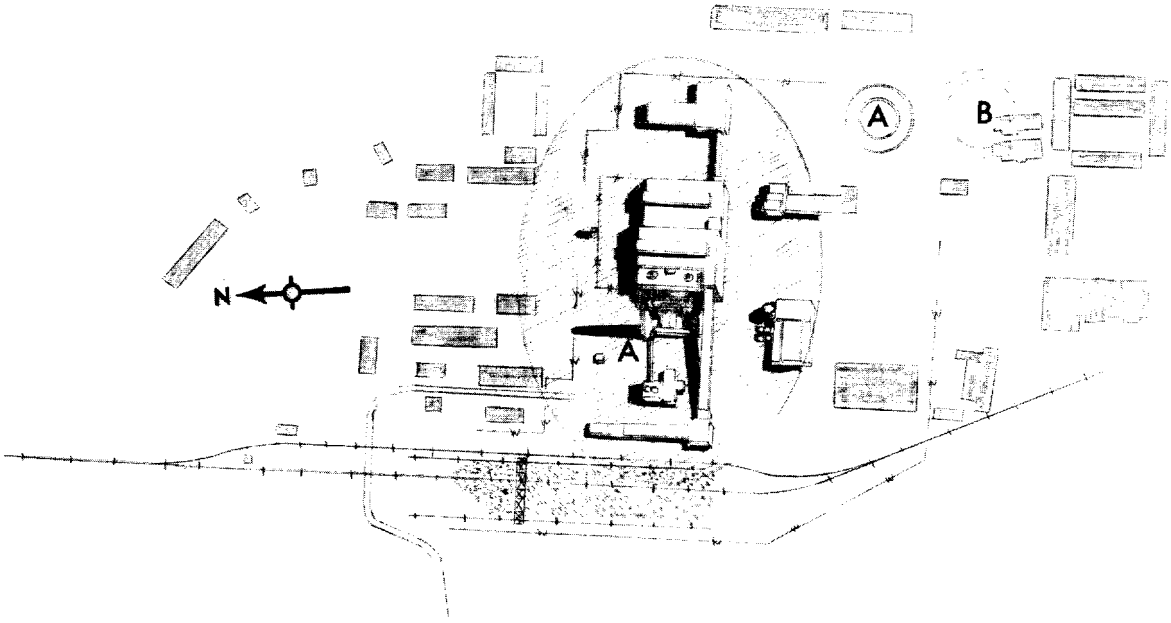

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FIGURE 9

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KAI-YUAN THERMAL POWER PLANT
(KAI-YUAN NITROGEN FERTILIZER PLANT)

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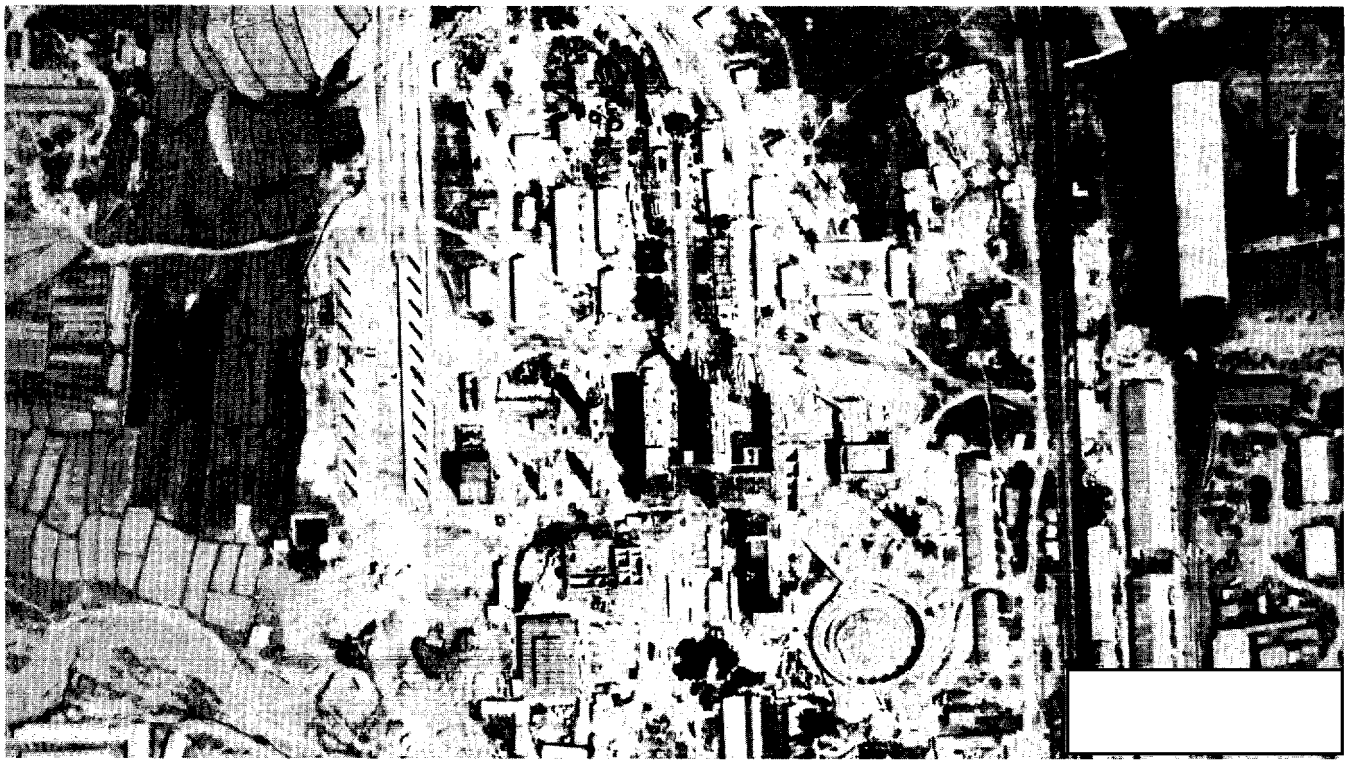

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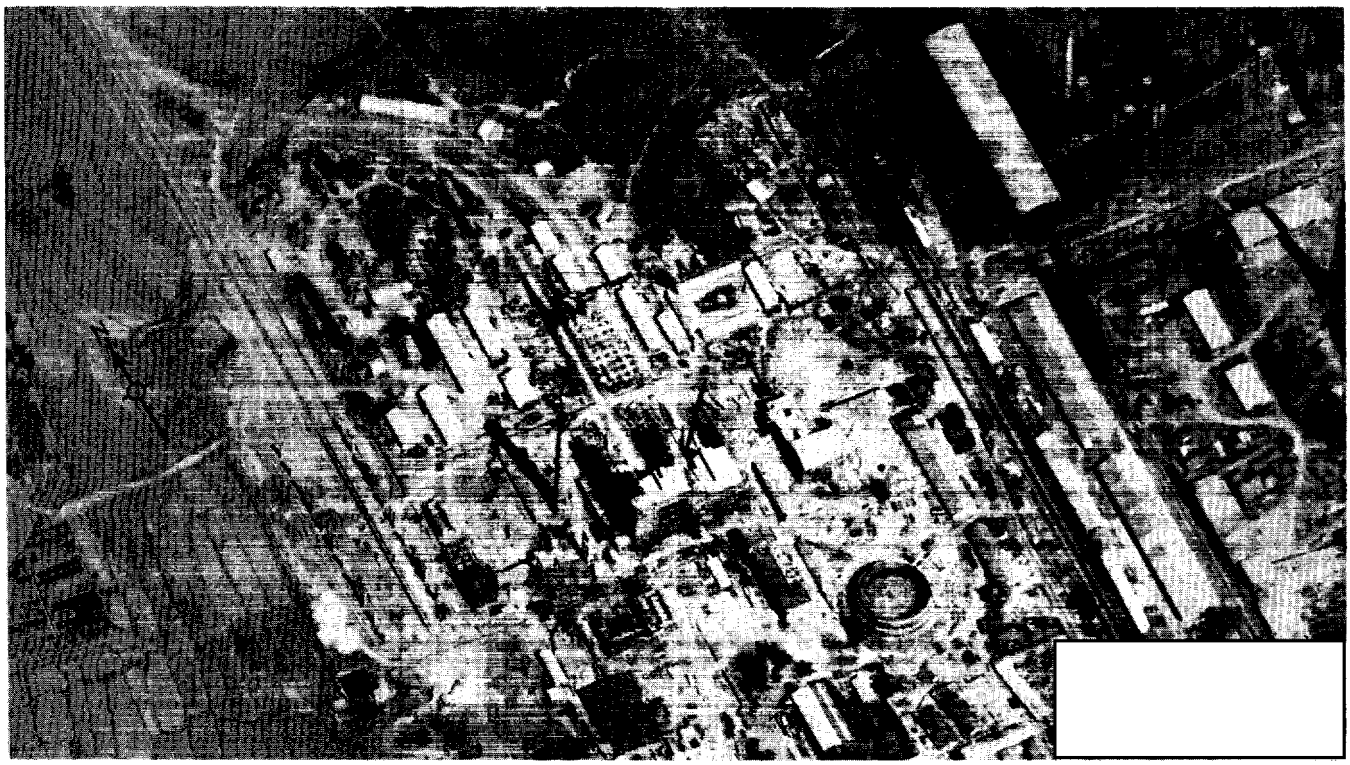

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CIA IMAGERY ANALYSIS DIVISION

KAI-YUAN THERMAL POWER PLANT
(KAI-YUAN NITROGEN FERTILIZER PLANT)

CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
Construction of the plant has not commenced.	N/A
The plant is well along in construction. Sides and the south end of the plant are nearing completion. Stack A and cooling tower A are in early stages of construction. The control house and several admin-engineering type buildings are near completion or are already finished (see figure 9)	N/A
The south end of the powerhouse appears completed. One boiler section and one generator hall section are roofed. Stack A is nearly completed; work on cooling tower A has progressed little since last coverage. The controlhouse is nearly finished as are a number of admin-engineering type buildings (see figure 9).	N/A

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[redacted]

KAI-YUAN THERMAL POWER PLANT
(KAI-YUAN NITROGEN FERTILIZER PLANT)

25X1

[redacted]

CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
Cooling tower A is completed and a coal handling crane is erected. Two sets of flues are in place, suggesting that two boiler units are installed or will be installed. The powerhouse has been completely roofed.	Light smoke from stack A. Very light vapor from cooling tower A.
The foundation for cooling tower B is in place. Construction is underway to extend boiler-generator unit northward.	Light smoke from stack A.

25X1

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[redacted]

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E

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CIA IMAGERY ANALYSIS DIVISION

KUN-MING THERMAL POWER PLANT (CHI-CHIA-PI)

NPIC NUMBER - 4-E

Kun-ming Thermal Power Plant (Chi-chia-pi) is located 7.0 nm west of Kun-ming Airfield at coordinates 25 00 20N - 102 36 50E. The facility is rail-served, coal-operated and includes two coal unloading buildings, substation with four transformers and control house, coal conveying and processing facilities, a possible water cooling system (newly constructed) west of the powerhouse, an ash disposal area, and the usual support/storage facilities.

The boilerhouse is being expanded and consists of two sections which are divided by the two coal conveyors. The western section, serviced by stack A, is equipped with five sets of roof-vents, five sets of probable dust-catchers (four sets have two units each and one set has one unit), and five single flues which suggest five operable boiler units. The expanding eastern boiler section is served by stack B and contains one completed boiler unit equipped with a dust-catcher; a larger dust-catcher is in place for a new boiler unit which is not yet completely roofed. Walls for the new unit were evident [redacted] but roofing did not begin until after [redacted]

The generator hall has not changed since first observed and may be completed. The western end of the hall contains seven roof-vents grouped in two sets of four and three; one set of power cables is apparant at the east end of the hall leading to a transformer.

Construction to the western end of the boilerhouse and the addition of a possible water-cooling system and a coal unloading/processing building were accomplished during the period [redacted]

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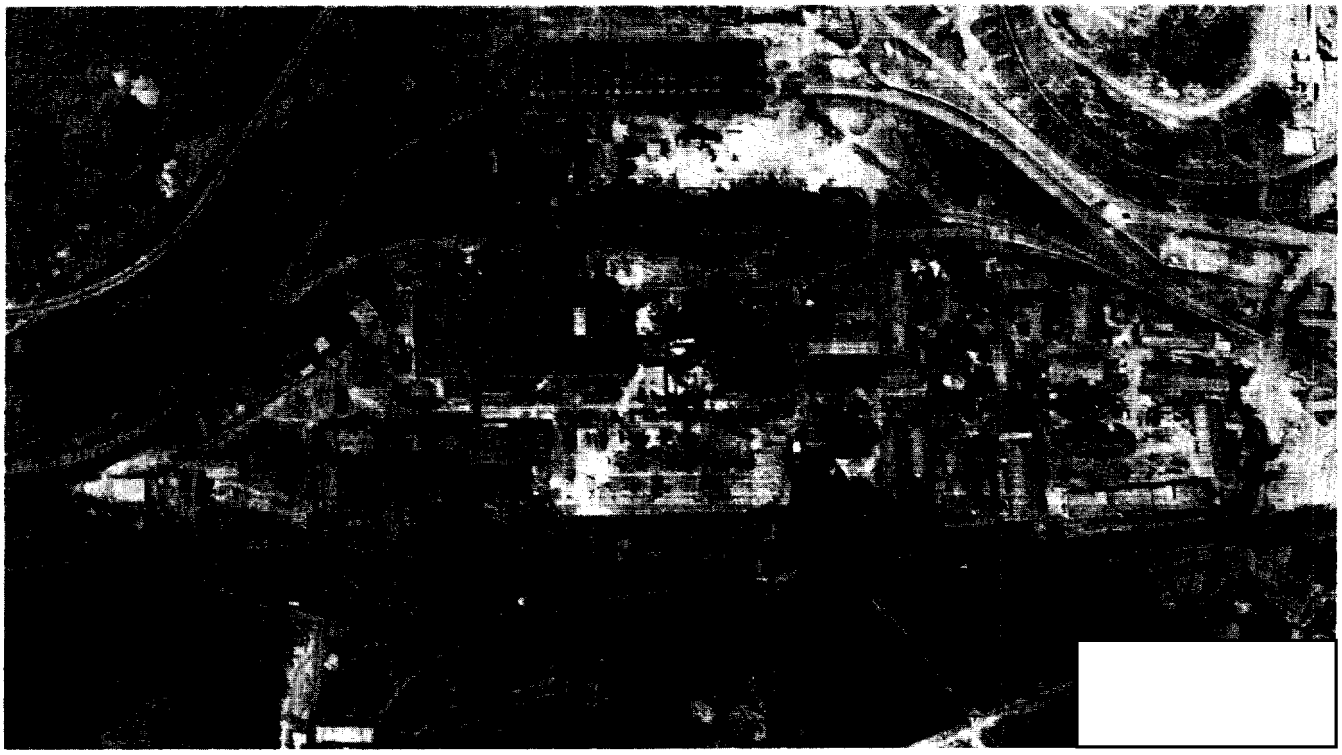
FIGURE 10

KUN-MING THERMAL POWER PLANT(CHI-CHIA-PI)



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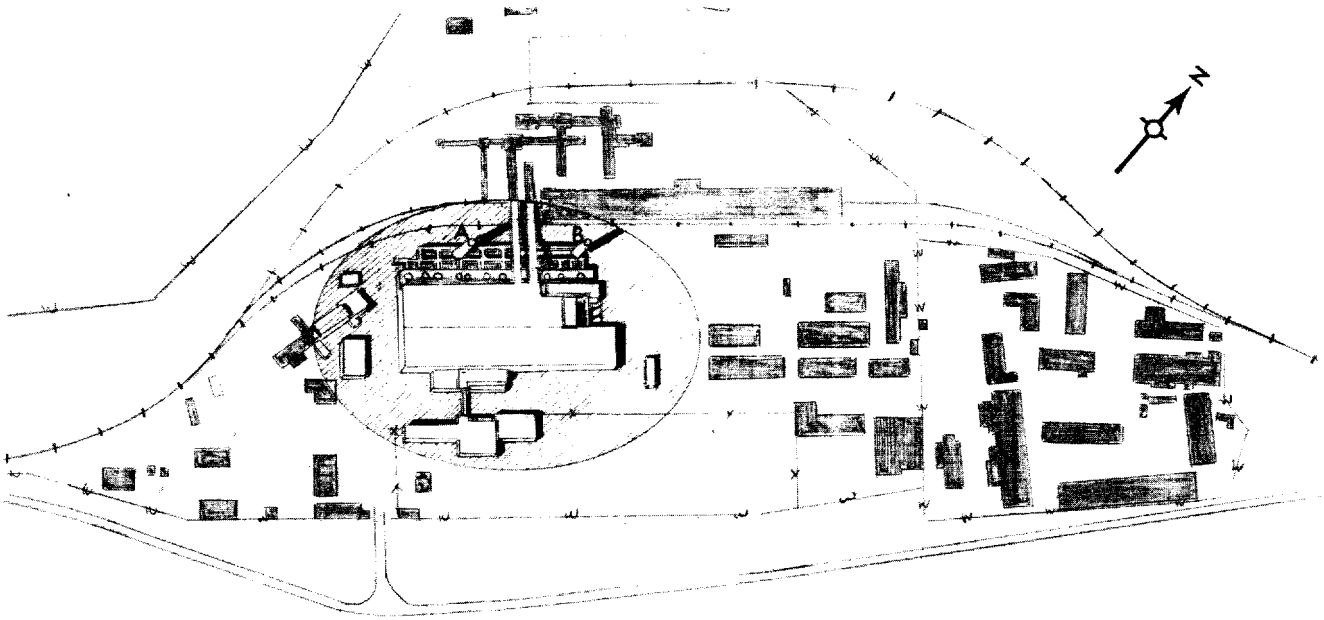

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FIGURE 11

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KUN-MING THERMAL POWER PLANT (CHI-CHIA-PI)

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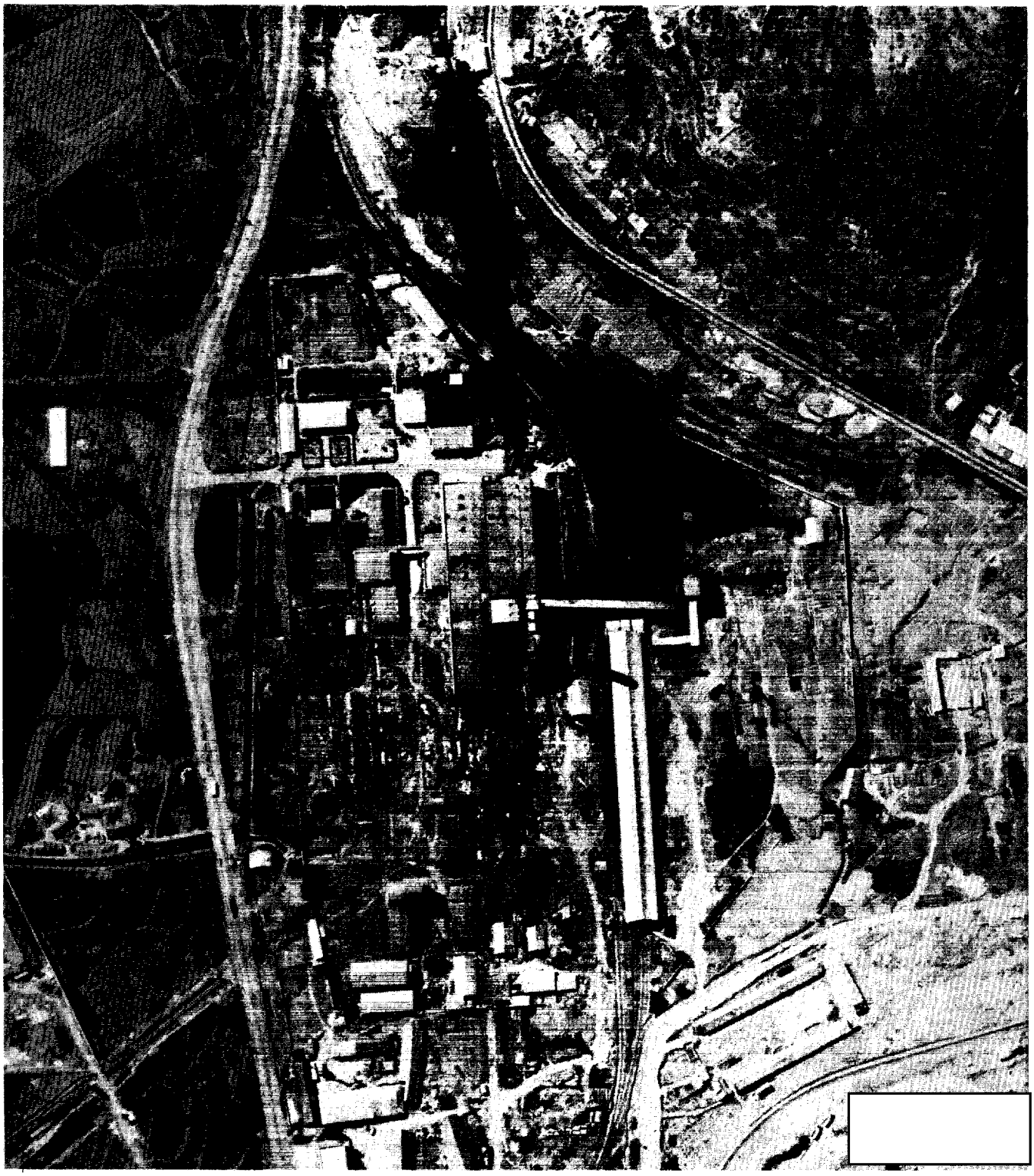

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KUN-MING THERMAL POWER PLANT (CHI-CHIA-PI)

	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	Western end of the boiler-house is incomplete; no construction activity is apparent.	Light smoke from stack A.
	No change.	Light smoke from stack A. Possible light smoke from stack B.
	No change.	Light smoke from stack A.
	Three support/storage buildings were constructed northeast of plant. No construction on boiler addition is evident.	Very light smoke from stack A.
	Obliquity precludes analysis.	Obliquity precludes analysis.

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25X1

KUN-MING THERMAL POWER PLANT (CHI-CHIA-PI)

	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	Excavation underway for new coal unloading/processing building. No change on boilerhouse	Very light smoke from stack A.
	A new roof section and flue have been added to the western boiler section (two dust-catchers are evident for the first time on this section). Uprights and roof members are in place for a coal unloading/processing building.	Very light smoke from stack B. Light smoke from stack A.

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KUN-MING THERMAL POWER PLANT (YANG-TSUNG-HAI)

NPIC NUMBER - 23-C

Kun-ming Thermal Power Plant (Yang-tsung-hai) is located northeast of Yang-tsung-hai (Lake) at coordinates 24 57 50N - 103 01 40E. The facility is rail-served, coal-operated and consists of a large coal unloading and storage building, coal processing and conveyor system, two substations, administration building, possible control house, pumping station, and numerous support/storage buildings.

The boilerhouse appears designed for seven boiler units; five units appear to be installed, but only four are apparently operable. The section served by stack B is equipped with two large dust-catchers and two two-duct flues, indicating two operable boiler units. Housing and part of a flue for a fourth unit are apparent. The western boilerhouse section, served by stack A, has three dust-catchers (one large and two small), but is equipped with only two two-duct flues, indicating two operable units for a plant total of four. The spacing of the dust-catchers and flues suggests that room for one additional unit exists in the western end of the plant.

The generator hall has no visible power cables, but does have five transformers located adjacent to the southern side of the generator hall, suggesting that five generator units are installed.

There has been no new construction during the period

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FIGURE 12

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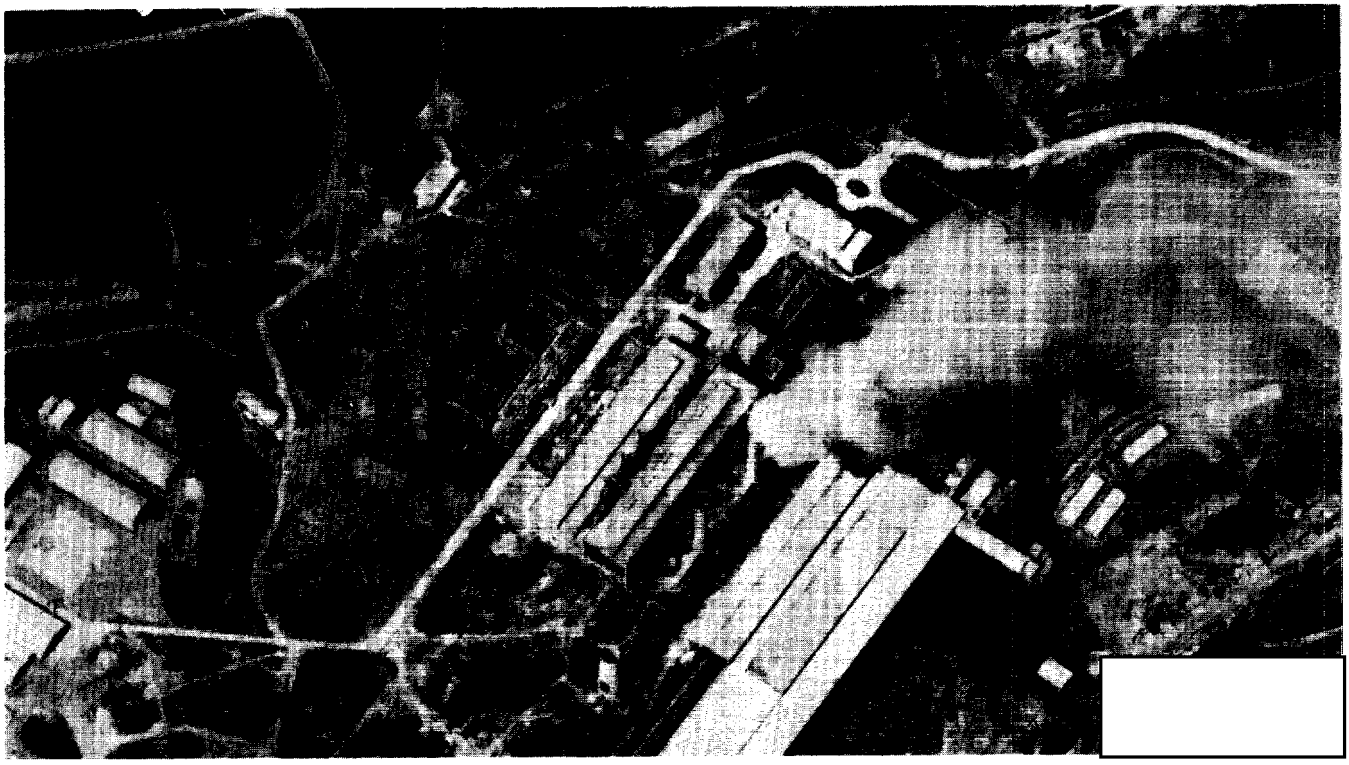
KUN-MING THERMAL POWER PLANT (YANG-TSUNG-HAI)



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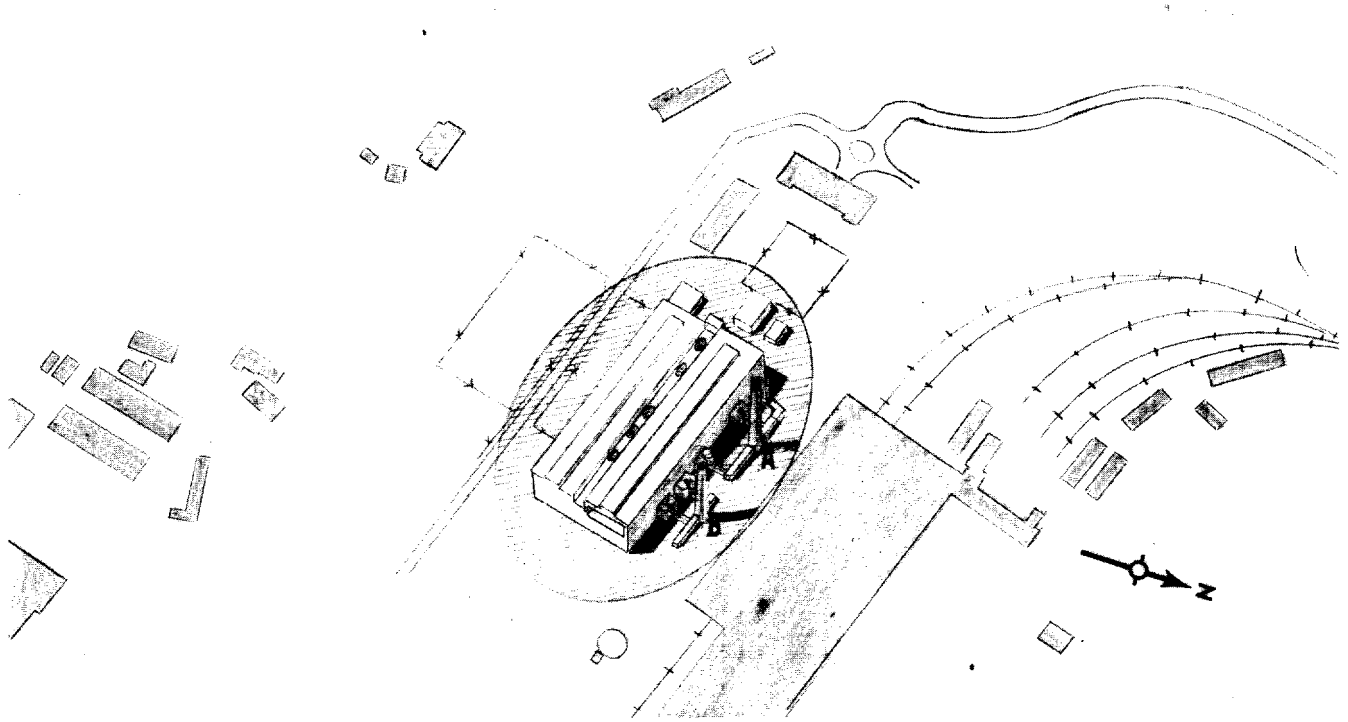

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KUN-MING THERMAL POWER PLANT (YANG-TSUNG-HAI)

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	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Moderate smoke from stacks A and B.
	One transformer has been removed	Moderate smoke from stacks A and B.
	None	Heavy smoke from stack B.
	None	Moderate smoke from stacks A and B.
	None	Moderate smoke from stack A. Light smoke from stack B.

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KUN-MING THERMAL POWER PLANT (YANG-TSUNG-HAI)

	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Moderate smoke from stacks A and B.
	None	Moderate smoke from stacks A and B.
	None	Light smoke from stacks A and B.
	None	Moderate smoke from stack A. Light smoke from stack B.

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TA-CHIANG-PIEN HYDRO POWER PLANT

25X1

NPIC NUMBER - 46

Ta-chiang-pien Hydro Power Plant (also known as Lin-lang-tung) is located on the Nan-pan Chiang (River) at approximate coordinates 24 01N - 103 38E. The facility is very small and the lack of good, large-scale photography precluded a detailed assessment of the plant. The powerhouse appears large enough for two turbo-generator units and is connected by penstocks to an underground source of water. A substation may exist just north of the plant. No additional details could be extracted from the one small-scale photograhic mission covering the plant. There was no apparent construction or activity noted.

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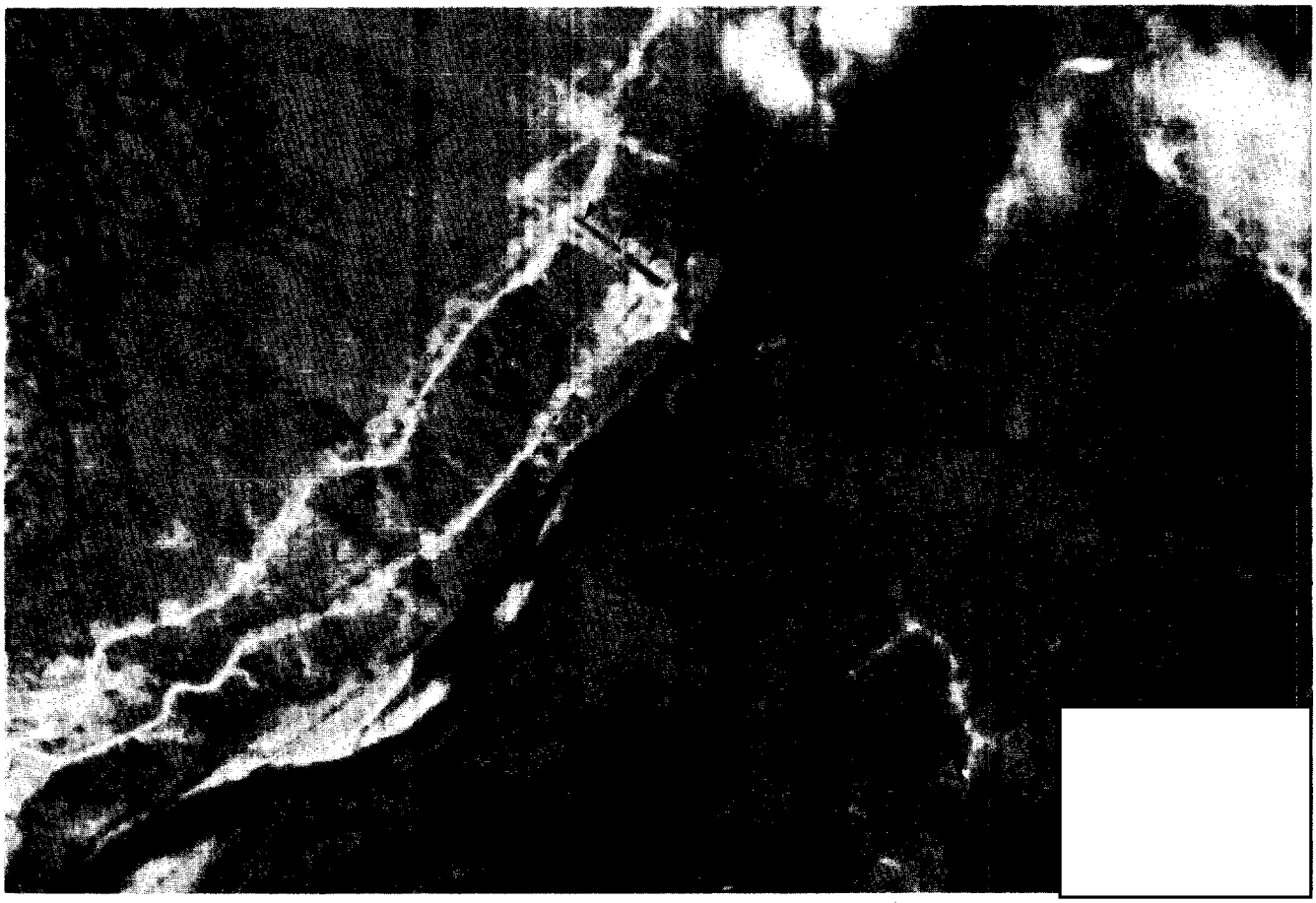
FIGURE 13

TA-CHIANG-PIEN HYDRO POWER PLANT



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